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ABSTRACT

The purpose of this study was to determine the reliability of the Tri-Cultural Attitude Scale (TAS). Based on the results of a sample of 336 Puerto Rican, Black-American and Anglo-American elementary school pupils in a large Connecticut city, the authors found generally significant relationships between the TAS and various criterion measures. Moreover, they found relatively good test-retest and split-half reliability coefficients, particularly for the Puerto Rican sub-sample. The TAS appears to be a positive step toward meeting the need for adequate affective assessment in bilingual/bicultural and other culturally pluralistic educational projects in the early grades. (Author)

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**The Validation of an Instrument to Assess
Attitudes Toward the Puerto Rican, Black-American
and Anglo-American Cultures**

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Efforts to evaluate and enhance the cultural attitudes of the pluralistic population of the American public schools are relatively recent phenomena (Cook, 1973). Consequently, a pressing need exists for appropriate instrumentation and psychometric studies in this area.

The Tri-Cultural Attitude Scale (TAS) represents a modular approach in the measurement of cultural attitudes and knowledge with respect to the Puerto Rican, Anglo-American, and Black-American cultures. Its component modules are applicable to programs which propose to enhance ethnic identity or cross-cultural understanding among any one or more of these three ethnic groups. These modular measures do not require reading ability; rather, they are based upon pictorial stimuli and response options. Since the directions are particularly appropriate for elementary school programs involving children who may differ culturally and linguistically.

The stimuli for the modular components of the Tri-Cultural Attitude Scale are graphic illustrations of the dress, sports, foods, and popular symbols of the Puerto Rican, Anglo-American, and Black-American cultures. The child reacts to these pictorial stimuli by marking one of five faces on a happy-sad Likert-type scale. There is also a separate response option indicating no knowledge of the particular cultural referent of the item.

The purpose of this study was to determine the validity and reliability of the TAS. After a review of the related instruments and a description of the item development procedures, substudies pertaining to the reliability and validity of the TAS will be presented.

REVIEW OF RELATED INSTRUMENTS

The earliest and most extensive source of research data concerning cultural attitudes has been verbal instruments. Bogardus' (1925, 1933) Social Distance Scale is probably the best known. It represents of verbal continuum of seven social situations ranging from intimate acceptance (ex., "Would marry") to active rejection ("Would have to live outside my country"). Bogardus developed his instrument by having 100 judges, consisting of college faculty members and students, rate each of sixty statements according to the extent of social distance it reflected. According to the original form of the instrument, subjects were asked to indicate the statement(s) which expressed their reaction to each of 40 nationalities, 30 occupations, and 30 religions. It has revealed rather consistent results in the several years of its use with college students (Bogardus 1953). Newcomb (1950) reported split-half reliability coefficients for the Bogardus scale as high as .90. Moreover, researchers (e.g., Smith, 1969) have modified the instrument so that the ethnic stimuli and social statements corresponded to the locale of their study and so that the mode of response reflected a range of intensity for each statement. Finally, other researchers (Miller & Briggs, 1958; Zeligs, 1948) have adapted Bogardus' methodology for use with adolescent students. There are no data available regarding the psychometric properties of this adapted form of Bogardus' instrument. However, its impracticability with respect to elementary school pupils seems clear, particularly where linguistic differences become a significantly limiting or intervening factor.

A second common verbal technique for assessing cultural attitudes is the semantic differential. Developed by Osgood, Suci, and Tannenbaum (1957), the semantic differential consists of pairs of bi-polar adjectives (ex., good-bad, strong-weak, fast-slow) typically demarcating a seven-point scale. Jenkins, Russell, and Suci (1957) found high reliability coefficients for the semantic differential mean ratings, although not for the individual ratings of American undergraduate students. Rosen (1959) found evidence of the predictive validity of this technique. However, he noted the conceptual and linguistic limitations of this technique with respect to pupils in the lower grades.

Sedlacek's (1971) Situational Attitude Scale represents an interesting technique for assessing cultural or ethnic attitudes, which incorporates elements of both Bogardus' and Osgood's methodologies. The subject is presented with statements describing various socially sensitive situations in two alternate forms: one with a culturally neutral protagonist and an otherwise identical student except for an ethnically identified protagonist:

- Ex. Someone on our street was raped by a tall man.
Someone on our street was raped by a tall Black man.

The subject is asked to respond to each statement by selecting among bi-polar adjectives (e.g. afraid-unafraid, happy-sad). Although limited by its high verbal factor and redundancy restraints, this technique seems suggestive of possible use for secondary, if not elementary school pupils (example of possible statement: "A new student just entered the class today").

Another instrument worthy of mention is a multiple-choice type

bicultural measure developed by Sealye (1968). Although limited in its application to highly literate Americans living in Guatemala, for which it appeared highly reliable and valid, Sealye's instrument exemplifies an enlightening empirical technique based upon contrastive analysis of target cultures. The range of cultural situations reflected in its items include recreation, food consumption, clothing, and religious practices specific to the target cultures.

Yousef's (1968) study supported the effectiveness of everyday situational stimuli as compared with objective and impersonal generalizations in eliciting cultural attitudes. Redke and Sutherland (1940) employed an open-ended written questionnaire approach to try to elicit underlying cultural values and attitudes. However, both approaches are too verbal and abstract to be used alone in measuring the cultural attitudes of primary-school children.

Several other verbal instruments measuring attitudes toward minority groups are presented and discussed in Shaw & Wright (1967, pp. 358-413). All of these scales were developed prior to World War II. Most of them focus on interracial attitudes among black and white Americans. Although they were carefully developed, these instruments cannot be directly applied to the current assessment of attitudes among elementary school students toward specific cultural groups because of recent social/political affairs.

Due to the limitations of verbal instruments, researchers have turned to nonverbal forms of stimuli or response modes for assessing the cultural attitudes of elementary school students. Several studies have

elicited data regarding the ethnic attitudes among black and white American pupils through the use of dolls. (Clark & Clark, 1955; Goodman, 1964; Radke & Trager, 1950). Despite the significance of these studies, their stimulus and scoring techniques are not practicable for assessing the attitudes among groups of elementary school pupils towards specific cultural groups.

Related nonverbal instruments are based on the use of photographs, drawings, or cut-out figures. Horowitz (1939) utilized photographs of individual black and white American children as choices for "preferred playmates." Johnson (1950, 1959) employed selected photos as the basis of a projective measure to assess the racial attitudes of Anglo- and Mexican-American subjects. Koslin (1970) utilized photographs of segregated and integrated classroom scenes as well as movable cut-out figures in simple social settings as indicators of interracial attitudes. The Self-Social Symbols Tasks (Ziller et al., 1969) also utilizes gummied cut-out figures to elicit racial attitudes as well as self-perceptions. The Preschool Racial Attitude Measure (Thompson et al., 1967) includes elements of the previously mentioned verbal and non-verbal instruments. The child is presented twelve brief stories, each of which portrays a protagonist along an evaluative dimension in a social situation. After hearing each story, the child is asked to choose between two drawings of the protagonist which differ only in skin color (ex., "Here are two girls. Everyone says that one of them is pretty. Which is the pretty girl?"). Although these creative techniques have been successfully used with young children, they are basically limited to black-white stereotypes.

Schmeidler and Windholz (1972) utilized an unusual nonverbal response method in a study comparing university students from Thailand and the United States. The students were asked to draw a line of any shape to express the meaning of each of a list of words. Each drawing was scored for such variables as pressure, closure, complexity, direction and size. Farber and Schmeidler (1971) employed the same technique in comparing attitudinal differences to "black" and "white" among Anglos and Black-American adolescents. The scoring system as well as conceptual basis would seem of limited applicability to the purposes of the present study.

The Cross-Cultural Attitude Inventory, a forerunner of the present instrument, was developed by Jackson and Klinger (1971) to assess attitudes toward Mexican-American and Anglo-American cultures among elementary school pupils. It consists of drawings of various popular symbols of these two cultures to which the child is asked to respond by marking one of five faces on a sad-happy dimension. Jackson (1973) reported test-retest correlations for the Mexican-American and Anglo-American items of .57 and .76 for a 15-day period (n=92), and of .49 and .58 for a 30-day period (n=83). McCallon (1972) judged these reliability coefficients to indicate a relatively good degree of stability, considering the difficulties of measurement in this area.

VALIDATION PROCEDURES AND RESULTS INCLUDING RELIABILITY ESTIMATES

Development of Item Content

In an effort to maximize content validity, the original item pool was derived from informal interviews and discussions with pupils, parents, and teachers of each of the target cultural groups, respectively. These sources were asked to suggest possible items, representing the way of life of their cultural group, which could be easily evoked by a simple illustration and a typical expression. This broad-based procedure generated 40-60 items for each culture. The item pool for each subtest was then reduced to 25-35 items by a representative committee of the particular cultural group. Eliminations were based upon preliminary considerations only. Subsequently, each committee selected an artist of their cultural background to prepare the simple line drawings of each item.

Selection of Appropriate Items

Students representing each cultural group served directly as "judges" to screen the prototype item illustrations and terms. Because of the probable difficulty presented by this task for at least some pupils in the elementary grades, students on the junior high school level were selected to serve as judges. Each group of judges consisted of 50-56 students in grades 7-10 from a metropolitan area in the North east representing the cultural group of the target prototype items they were asked to judge. There were an approximately equal number of males and females in each judging group. In addition to the mainland judging groups for the Black-American, Anglo, American, and Puerto Rican cultures, a group of Puerto

Rican adolescents in Puerto Rico was secured to complement the screening process for the Puerto Rican items.

Each group of judges was asked to rate the prototype item illustrations in terms of their culture on a questionnaire developed in parallel English and Spanish forms. The items were presented visually and orally in their prototype forms. The judges rated each prototype item of their culture according to its representativeness on a four-point scale ranging from 0 (Not At All) to 3 (Excellent) and on a two-point valence scale (POSITIVE OR NEGATIVE). Items were rejected if the mean representativeness score was 1.7 or less, or if the positive percentage level was 66% or less. As a result, 6 items were deleted from the Anglo-American subtest, 4 items were deleted from the Black-American subtest, and 3 items were deleted from the Puerto Rican subtest.

The remaining items were then compiled into test booklets. The illustrations were revised and refined according to the judging group's comments. A pictorial response mode was selected, consisting of a "wondering" (no knowledge) face separated from five "feeling" faces, ranging from a pronounced frowning face to a pronounced smiling face.

The test booklets were administered to 336 pupils in grades 1 through 6 of a large school system for item analysis purposes. The sample consisted of 201 Puerto Ricans, 100 Black-Americans, and 35 Anglo-Americans. The levels for item retention were operationally established as 1) a distribution of 80 percent or less for any response category, and 2) a correlation with total score of .30 or above.

As a result of the item analysis, 4 items were eliminated from the

Anglo-American subtest and 2 items were eliminated from the Black-American subtest. In the Puerto Rican subtest all items met the criteria for item retention.

From the set of remaining items, 15 items were selected from each module so as to provide a balanced distribution of cultural referrals throughout the three modules. The item validities for the items selected for the Anglo-American module ranged from .34 to .61. The item validities for the Black-American module were bounded by .31 and .65. In the Puerto Rican subtest, the item validities were between .36 and .65. All item validities were significant beyond the .01 level.

Reliability

Split-half reliability coefficients adjusted by the Spearman-Brown formula for length were obtained from a sample of 330 Anglo-American, Black-American and Puerto Rican pupils in grades 1 - 6. The coefficients for the Anglo-American and Puerto Rican modules were .77 and the coefficient for the Black-American module was .68. Each was significant at the .001 level. Thus, in light of the construct being measured, the modules are deemed to be internally consistent.

The test-retest reliability coefficients obtained over a three-week interval with a sample of Anglo-American, Black-American, and Puerto Rican students distributed across grades 1 - 6 are reported in Table I.

Table I
TEST-RETEST RELIABILITY COEFFICIENTS

	<u>Black-American Pupils (n=39)</u>	<u>Puerto Rican Pupils (n=56)</u>	<u>Total, incl. 12 Anglo Pupils (n=101)</u>
Black-American Module	.61	.60	.59
Puerto Rican Module	.52	.58	.53
Anglo-American Module	.57	.61	.60

As may be seen by viewing this table, the test-retest reliability co-efficients ranged from .52 to .61 and were statistically significant at the .01 level. Hence, the stability of the measure across time is established.

Validity

Evidence of the construct validity of the TAS is revealed in Table II. As may be seen by viewing this table, the most knowledgeable and favorable cultural group for each modular measure was generally the one represented by that measure. The corresponding F-ratios indicate that the means were significantly different.

Table II
MODULAR ATTITUDE AND KNOWLEDGE SCORES
FOR EACH GROUP

<u>Construct</u>	<u>Anglo-American</u> <u>Module</u>				<u>Black-American</u> <u>Module</u>				<u>Puerto Rican</u> <u>Module</u>			
	<u>A-A</u>	<u>B-A</u>	<u>PR</u>	<u>F-ratio</u>	<u>A-A</u>	<u>B-A</u>	<u>PR</u>	<u>F-ratio</u>	<u>A-A</u>	<u>B-A</u>	<u>PR</u>	<u>F-ratio</u>
Attitude	4.58	4.20	4.37	8.62**	3.76	4.24	3.67	37.07**	3.85	3.85	4.34	20.34**
Knowledge	14.84	11.0	9.14	14.07**	14.54	13.96	12.54	37.84**	13.77	11.43	13.43	37.21**

** p < .01

Moreover, the highest attitude and knowledge score for any one group generally coincided with the respective modular measure. That is, for example, the highest Anglo-American attitude of 4.58 was found in the Anglo-American module, surpassing the other Anglo-American means of 3.76 and 3.85 for the Black-American and Puerto Rican modules.

In order to further assess the validity of the TAS modules, data were collected reflective of the relationship between the results of the instrument and those of the following external criteria: 1) a teacher rating scale, and 2) a sociogram.

In substudy 1, the teachers of 330 Anglo-American, Black-American, and Puerto Rican pupils in grades 1-6 were asked at the end of the school year to rate the attitude of each of their pupils towards each of the three cultures on a 1 (very negative) to 5 (very positive) Likert-type scale. At the same time and independent of the teachers' ratings, the

pupils were tested by outside examiners with the TAS modules. The correlation coefficients between the teacher ratings and test results for each target culture are given in Table III:

Table III
RELATIONSHIP BETWEEN TEACHER RATINGS AND TEST RESULTS
N=330

Black-American	.23**
Puerto Rican	.15**
Anglo-American	.34**

** $p < .01$

As it can be seen in Table III, the results of the teacher ratings and the TAS results were statistically significant beyond the .01 level for each of the three target cultural groups. Although the correlations were lower than expected, minimal support for the TAS is realized.

Substudy 2 was designed to explore the relationship between the TAS scores and the results of a sociogram in terms of ethnicity. A sample of 102 pupils in five multi-ethnic classrooms (grades 2-4) were asked to indicate their sociometric choices according to a technique described by Cohen (1969). The pupils were each given a number which is clearly visible. After arranging their seats in a large circle, the examiner directs the children in a game which results in listing their two preferred choices for "playing with", "working with", and "sitting with". The

responses were analysed according to ethnicity so as to generate Anglo-American, Black-American and Puerto Rican socio-values for each subject.

The same subjects were tested the following day with the TAS. The correlation analysis between the sociogram scores and the TAS scores are reported in Table IV. It was hypothesized that a significant relationship would emerge between the pupils' ethnic choices on the sociogram and their ethnic attitudes as revealed by the TAS.

Table IV
CORRELATION COEFFICIENTS BETWEEN SOCIOGRAM SCORES
AND TAS RESULTS WITH RESPECT TO ETHNICITY
N=102

Black-American	.18
Puerto Rican	.28**
Anglo-American	.21*

* p \leq .05

** p \leq .01

As shown by Table IV, the relationship between the sociometric criterion and the modular instrument approached significance with respect to the Black-American culture and attained significance with respect to the Anglo-American and Puerto Rican cultures beyond the .05

and .01 levels, respectively. Although sociometric choices within multi-ethnic classrooms certainly entail a complex of individual factors including ethnicity as only one facet, the relationship between the ethnic choices of the sociogram and the cultural attitudes from the TAS provides further evidence of the validity of the instrument's modular measures.

The relationship between the modular scores of the TAS and the organismic variables of sex, age, and grade were examined for the first substudy's sample of 330 pupils. In contrast to the criterion variables, these variables should be independent of the test's results. The relationships are reported in Table V.

Table V
CORRELATION COEFFICIENTS BETWEEN TAS SCORES
AND ORGANISMIC VARIABLES

	<u>Sex</u>	<u>Age</u>	<u>Grade</u>
Black-American	.06	.02	.13*
Puerto Rican	-.03	.02	-.06
Anglo-American	.12*	.03	-.06

* $p < .05$

As hypothesized, the relationship between the TAS and the organismic variables were generally low and not statistically significant, indicating the relative independence of the test instrument.

As a final support of the validity of the TAS, the intercorrelations

between the three modular measures were generated (see Table VI). Although independent measures, one would expect a moderate inter-relationship between them as a reflection of the generality of the psychological constraints of "culture" and of "attitude".

Table VI
INTERCORRELATIONS BETWEEN THE THREE MODULAR MEASURES

	Black-American Module	Puerto Rican Module
Puerto Rican Module	.14	
Anglo-American Module	.33**	.55**

** p < .01

As indicated in Table VI, the intercorrelations indicated a moderate degree of commonality.

SUMMARY AND CONCLUSIONS

Various substudies provided general evidence of the validity and reliability of the TAS. The developmental process provided evidence of the content validity of the TAS. The test-retest and split-half reliability coefficient reflected a moderate degree of stability and internal consistency for each modular measure, especially when compared to previous instruments in this area. The degree and directionality of the normative

scores supported the claim of construct validity. Evidence of the criterion validity of the TAS was revealed in the statistically significant correlation coefficients between its results and external teacher ratings and sociometric choices. Thus, the TAS should be regarded as a promising instrument, but certainly additional efforts must be expended in the quest for an adequate measure of cultural attitudes.

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